

### **DETAILED ACTION**

1. This Office Action is a response to the remarks filed on September 9, 2008.

Claim 7 has been amended; no claims have been cancelled or added.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 11, 2008 has been entered.

3. In view of amendment(s), remarks, certified translation of JP 2003-129997 and Terminal Disclaimer, the double patenting rejection of claims 7 and 8, and the rejection of claims 7, 8, 14 and 15 under 35 U.S.C. 103(a) as being unpatentable as obvious over Sato et al. (EP 1 357 138 A1) in view of Percec et al. (V. Percec and H. Oda "Molecular Engineering of Liquid-crystalline Polymers of 'Living' Polymerization. Part 31. Synthesis and 'living' cationic polymerization of (2R, 3S)-2- fluoro-3-methylpentyl 3-fluoro-4'- ( $\omega$ - vinyloxyalkoxy) biphenyl-4-carboxylate with undecanyl and octyl alkyl groups", J. Mater. Chem., 1995, 5(8), 1125-1136). have been withdrawn.

4. Claims 7, 8, 14 and 15 are pending.

### ***Allowable Subject Matter***

5. Claims 7, 8, 14 and 15 are allowed.

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6. The following is a statement of reasons for the indication of allowable subject matter: the present claims are allowable over the closest reference: Percec et al. "Molecular Engineering of Liquid-crystalline Polymers of 'Living' Polymerization. Part 31. Synthesis and 'living' cationic polymerization of (2R, 3S)-2- fluoro-3-methylpentyl 3-fluoro-4'- ( $\omega$ -vinylalkoxy) biphenyl-4-carboxylate with undecanyl and octyl alkyl groups", J. Mater. Chem., 1995, 5(8), 1125-1136.

Percec discloses the synthesis and living cationic polymerization of (2R, 3S)-2-fluoro-3-methylpentyl 3-fluoro-4'- (11-vinylundecyloxy) biphenyl-4-carboxylate (18-11) and (2R, 3S)-2-fluoro-3-methylpentyl 3-fluoro-4'- (8-vinyloctyloxy) biphenyl-4-carboxylate (18-8). Poly(18-11)s and poly(18-08)s with degrees of polymerization (DP) from 4.5 to 16.7 and polydispersities less than 1.22 were synthesized and characterized and characterized by differential scanning calorimeter (DSC) and thermal optical polarized microscopy (abstract).

Percec discloses that the effect of fluorine substitution on mesomorphic phase behavior has been investigated for a number of different low-molar-mass liquid-crystalline compounds by replacing hydrogen with fluorine in the mesogenic group (col. 1, page 1125). Percec discloses the synthesis of monomers, the cationic polymerization (schema 2) and copolymerization of 18-11 and 18-08 (schema 3) (page 1129 and 1134).

However, Percec does not disclose or fairly suggest an amphiphilic block polymer comprising (a) a hydrophilic block segment having a repeating unit structure

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represented by the general formula (4), and a hydrophobic block segment having a repeating unit structure represented by the general formula (8), as per claims 7 and 15.

7. As of the date of this Notice of Allowability, the Examiner has not located or identified any reference that can be used singularly or in combination with another reference including Perces et al. to render the present invention anticipated or obvious to one of ordinary skill in the art.

8. In the light of the above discussion, it is evident as to why the present claims are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delay, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reason for Allowance".

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/  
Examiner, Art Unit 1796

/M. M. B./  
Examiner, Art Unit 1796

/Randy Gulakowski/  
Supervisory Patent Examiner, Art Unit 1796